Program Executive Office
C4I and Space

Building the Navy's C4I "Strategic Capability"

Mr. Dennis Bauman
Program Executive Officer,
C4I and Space

ASN RDA's Source Document

- "Provide a framework that gives all of us a shared purpose, while shaping our way of being, thinking, and attitudes."
- "….intended to be the basis by which individual goals are set, planning is done, decisions are made, and actions are taken."

Source Document contains:

- the new strategic context
- vision of the future
- guiding principles
- key goals & milestones
- key change initiatives
- methods and tools
- enhancements for our neighborhood.

Vision

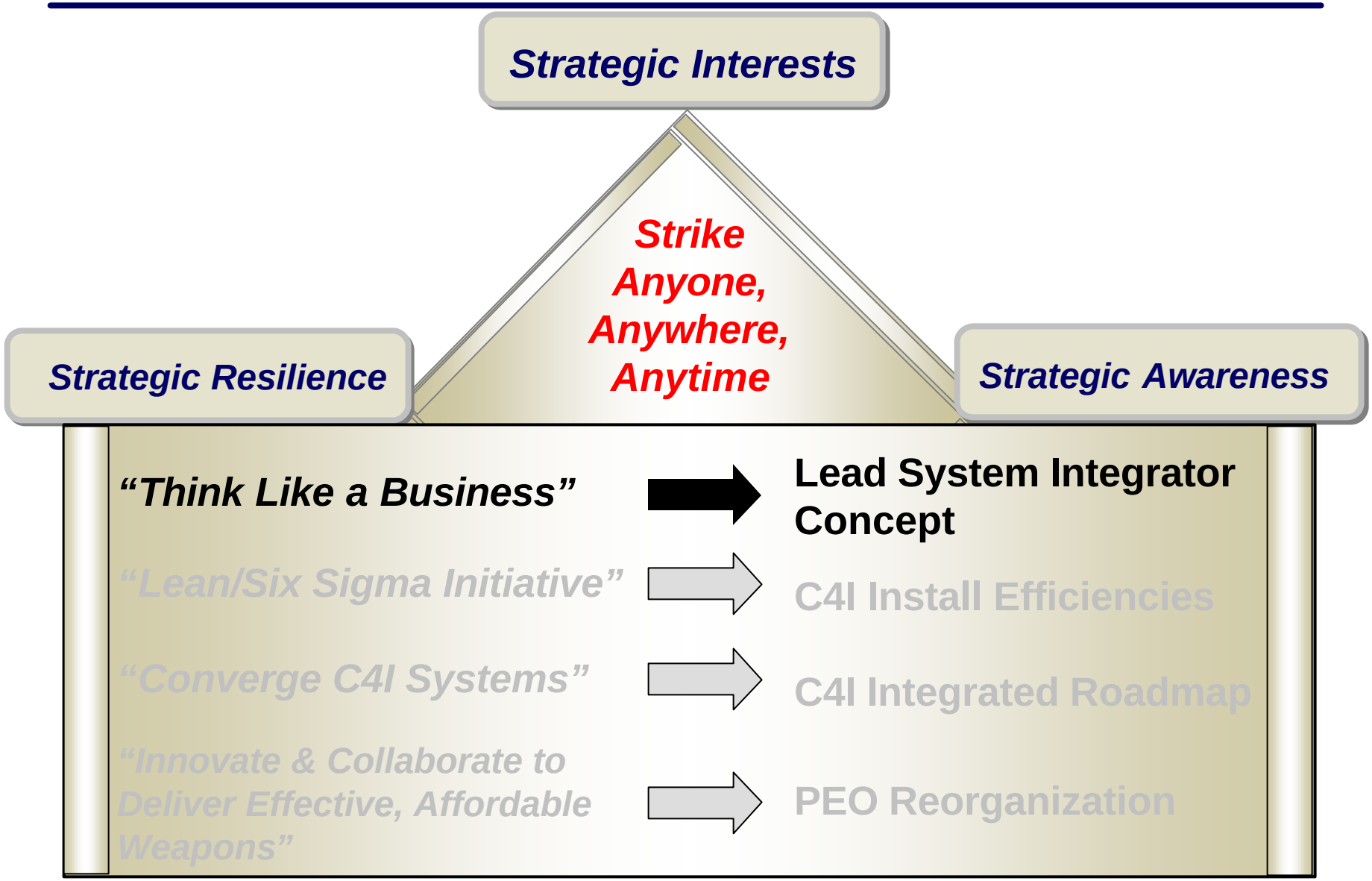
RDA Vision: Build the Strategic Capability to *Strike Anyone, Anywhere, Anytime.*

We recognize that to achieve this, we need to create an Inspired, High Performing, Boundary-less Organization that Delivers.

To achieve this vision, we need to create an inspired, high-performing organization where each person makes a difference. We also need to collaborate effectively across traditional boundaries. This means we need to see the value of an informal organization. We need to see ourselves as part of a community or neighborhood that comes together as stakeholders around joint projects.

Building the Navy's C4I "Strategic Capability"

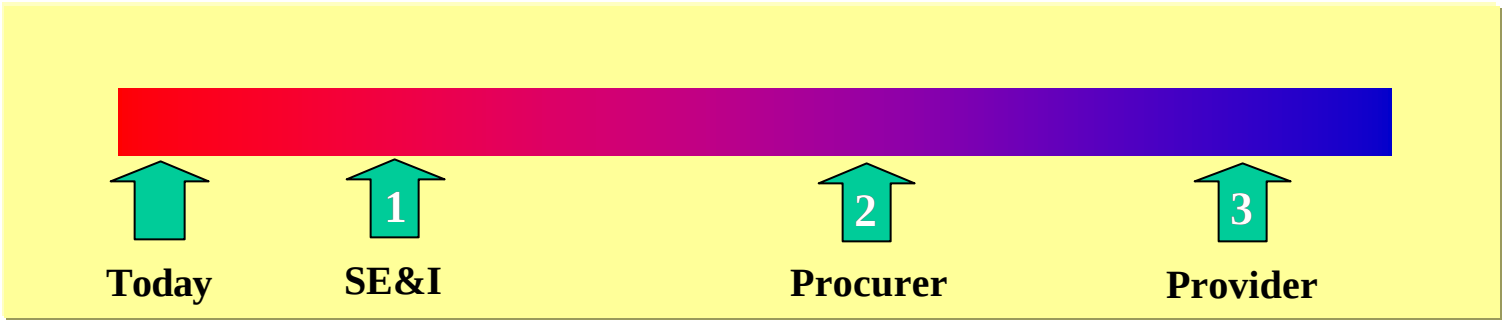
Building the Navy's C4I "Strategic Capability"



Lead System Integrator (LSI) Concept

Definition & Scope

- The typical LSI model is responsible for an end-to-end system being delivered and sustained; integrated process focused on program success



- Three Options with Expanding Scope:
  1. Systems Engineer and Integrator
  2. SE&I plus Product Procurement
  3. Overall Functional Capability Provider

Lead System Integrator (LSI) Concept

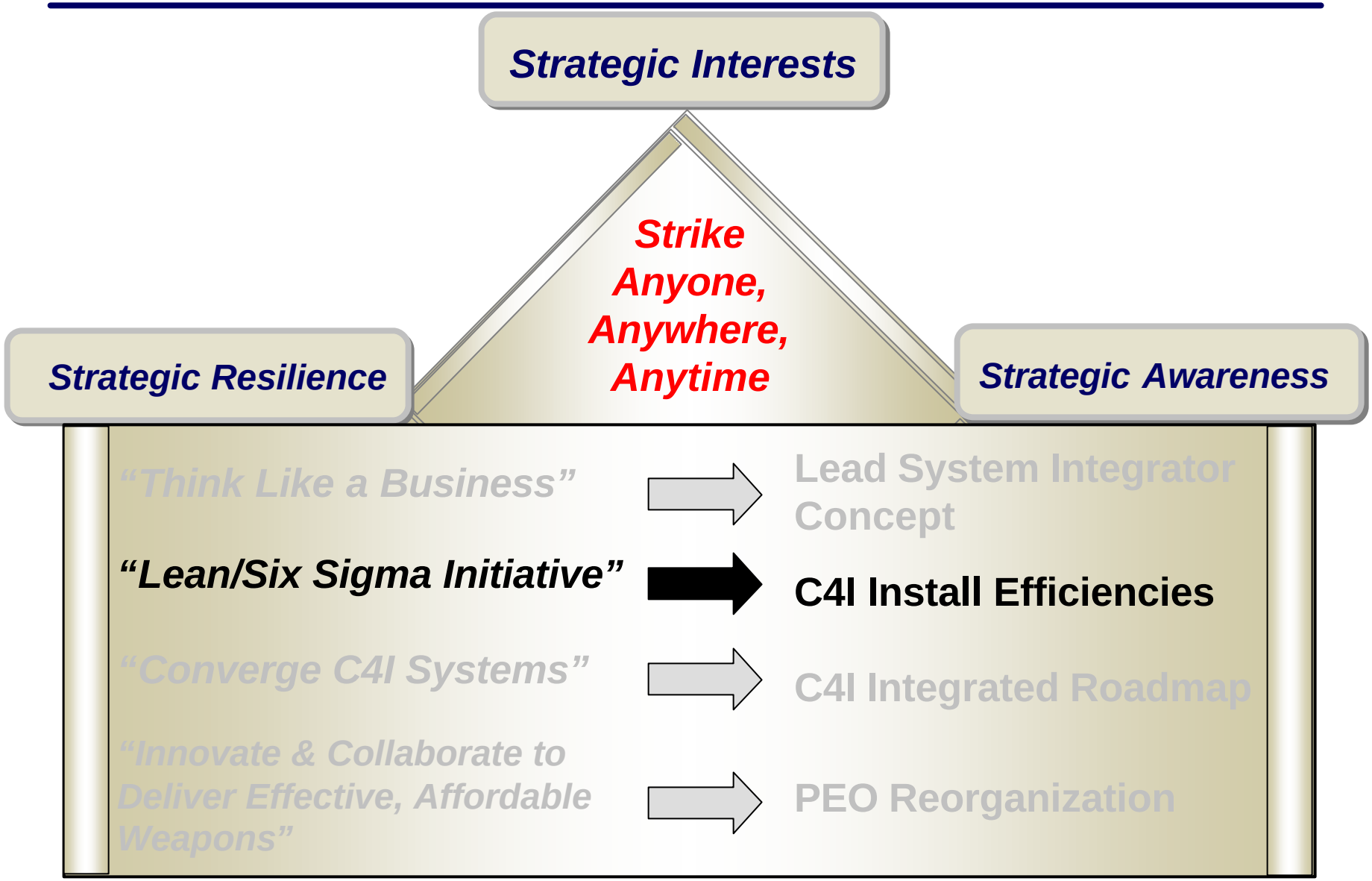
PEO Objectives

- **Move work to Industry that belongs with Industry**
- **Maintain Acquisition vice engineering focus**
- **Promote integration/efficiency/savings objectives across the PEO enterprise**
  - Avoid awarding one single large contract (e.g. FCS)
- **Share savings across different contractors**
  - Example: Joint designs that reduce lifecycle costs
- **Incentivize risk taking and deincentivize poor performance**
- **Accelerate and strengthen C4I Integrated Roadmap**
- **Deliver integrated C4I solutions on new construction platforms**

Lead System Integrator (LSI) Concept
Current Status

- **Talking with Industry leadership for ideas and advice for successful implementation**
  - **NDIA and AFCEA**
- **Formed a government IPT to define a strategy**
  - **Using "lessons learned" from successful approaches**
    - **Common Submarine Radio Room (SCN – Virginia and Seawolf and FMP – SSBN/SSGN)**
- **Looking for selected pilot opportunities**
- **More to follow…..**

Building the Navy's C4I "Strategic Capability"

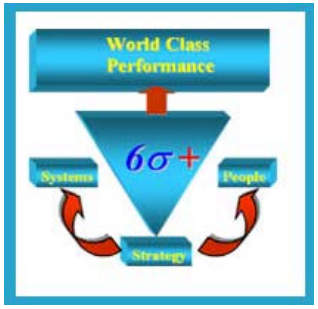


Improving C4I Install Processes

Lean/Six Sigma Methodology

The Lean Method

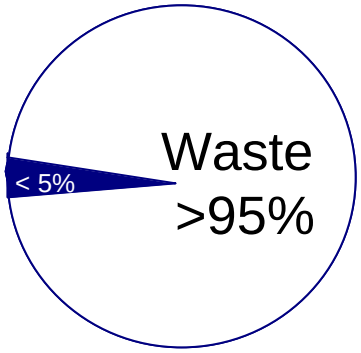
- Define the current process
- Identify / prioritize target areas for improvement
- Analyze target improvement areas
- Create the future process
- Implement the future process improvements
- Measure the result and report
- Review / revisit as required



Improving C4I Install Processes

Lean/Six Sigma Methodology

Typical Mass Production / Transactional Environment

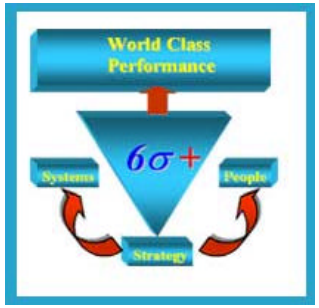


= True value added

Seven Deadly Wastes

Excessive Motion	▸Incorrect layouts of factory, office, etc. ▸Lack of proximity of machines ▸Off-line resources
Waiting Time	▸Watching machines work ▸Long set-up time and lead times ▸Riding "shotgun"
Overproduction	▸Large batches of inventory ▸Planning full utilization of machines and labor ▸Producing more than market demands
Unnecessary processing time	▸Poor machine maintenance ▸Unnecessary processing steps ▸Awaiting access to facilities
Defects	▸Long delays for troubleshooting ▸Costly rework ▸Dissatisfied downstream customers
Excessive Inventory	▸High stocks of raw materials, WIP and finished goods ▸Additional real estate requirements ▸Clutter
Unnecessary Transportation	▸Unnecessary movement ▸Extra handling ▸"moving inventory harder to keep track of

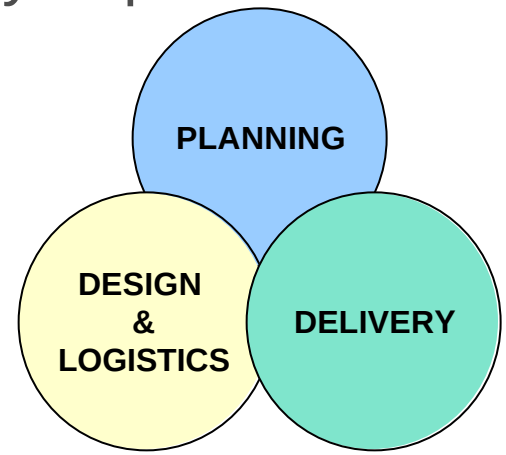
Lean strives to produce the highest quality at the lowest cost in the shortest lead-time, with flexibility to respond to changes

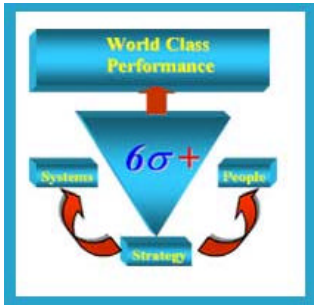


Improving C4I Install Processes

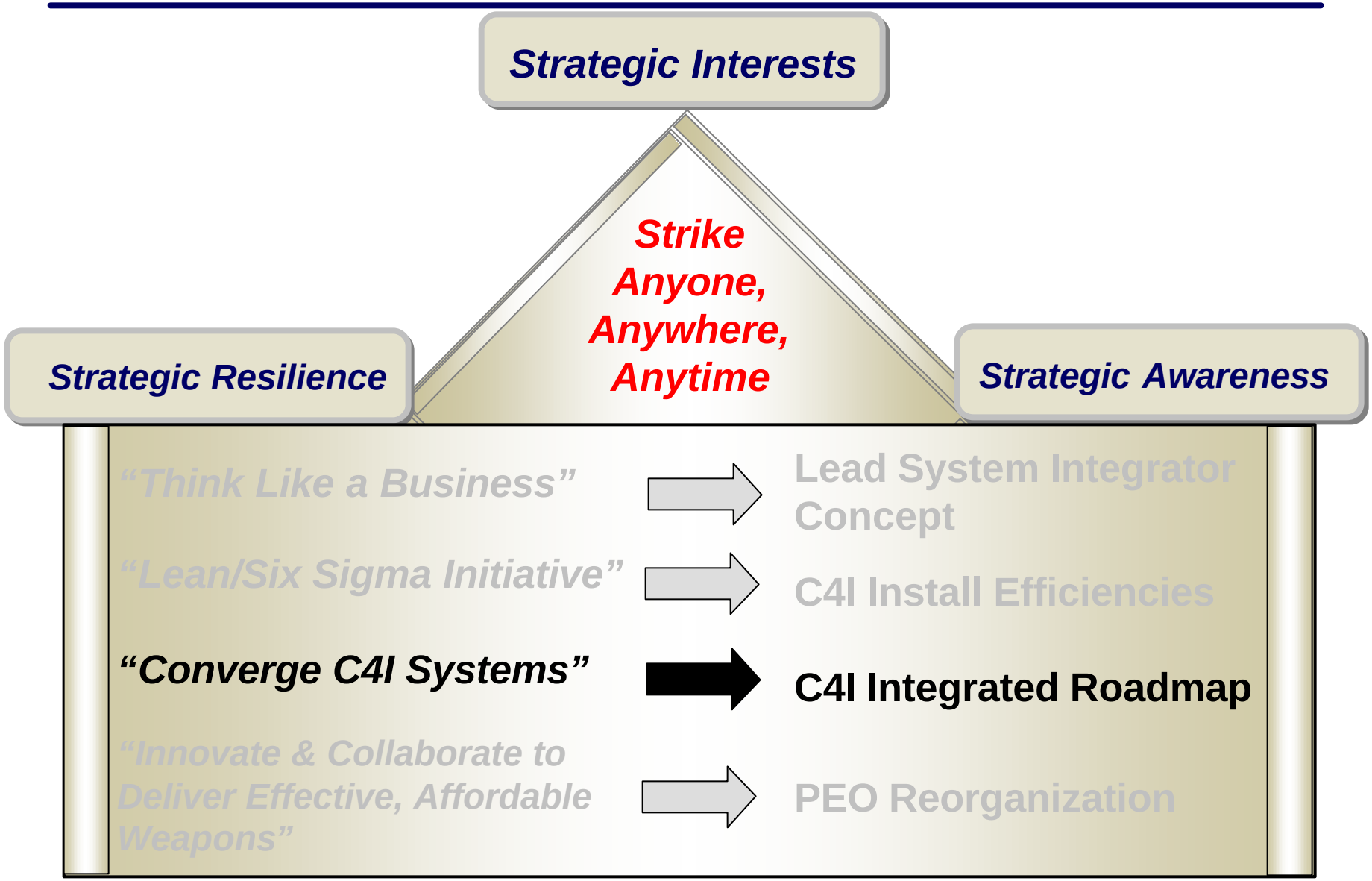
Applying the Lean/Six Sigma Methodology

- Corporate Lean Six Sigma Installation Team:
  - PEO C4I and Space
  - SPAWAR HQ
  - SPAWAR System Centers
- Purpose:
  - Improve efficiency, effectiveness and alignment in the corporate fielding of C4I capabilities, using the concepts of Lean, Six Sigma, and Theory of Constraints
- Focus on three mutually dependent areas of the Installation Enterprise:
  - Planning
  - Design & Logistics
  - Delivery





Building the Navy's C4I "Strategic Capability"



C4I Operational Capability

Today

- Bandwidth Constrained
- Stovepiped Systems
- Use of Resources Sub-Optimal
- Little Redundancy
- Multiple Enclave and Application Specific Networks
- Isolated Coalition Enclaves
- Stovepipe Raw Data Streams to Operator
- Inconsistent Data Quality Across Information, Sensor and Engagement Networks

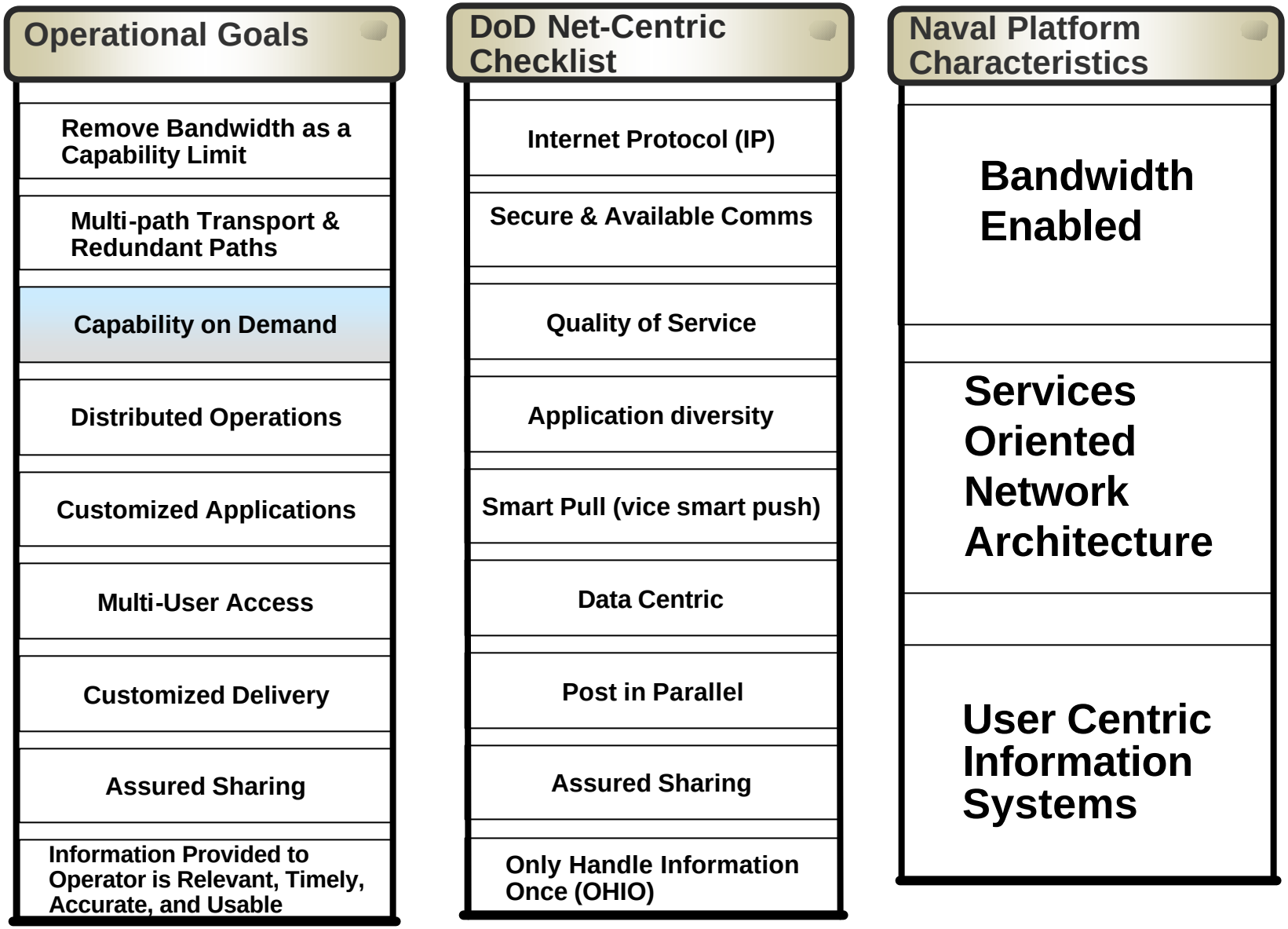
Integrated Roadmap

Goal

- Remove bandwidth as a Capability Limit
- Multi-path Transport
- Dynamic Bandwidth Management
- Redundant Paths
- Merged Networks
- Multi-National Information Sharing
- One Stop Information Shopping
- Information Provided to Operator is Relevant, Timely, Accurate, and Usable

Goal: Make NCW and FORCEnet an Operational Reality

Naval Platform NCW Characteristics



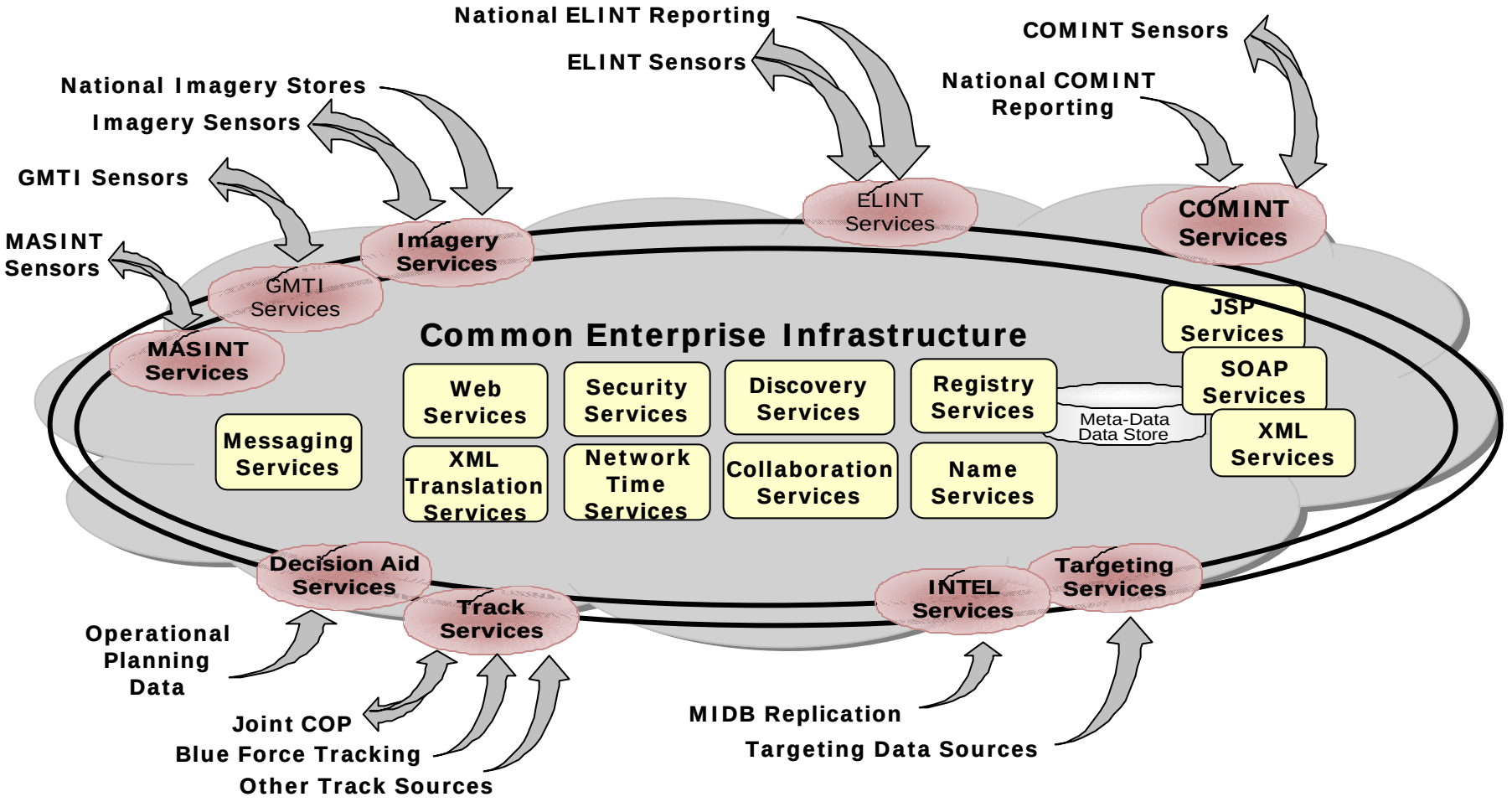
Bandwidth Enabled

- High bandwidth terminals and waveforms
- Dynamic bandwidth management
- Efficient use of all transport resources
- Multi-Path, redundant transport
- IP convergence

Results:

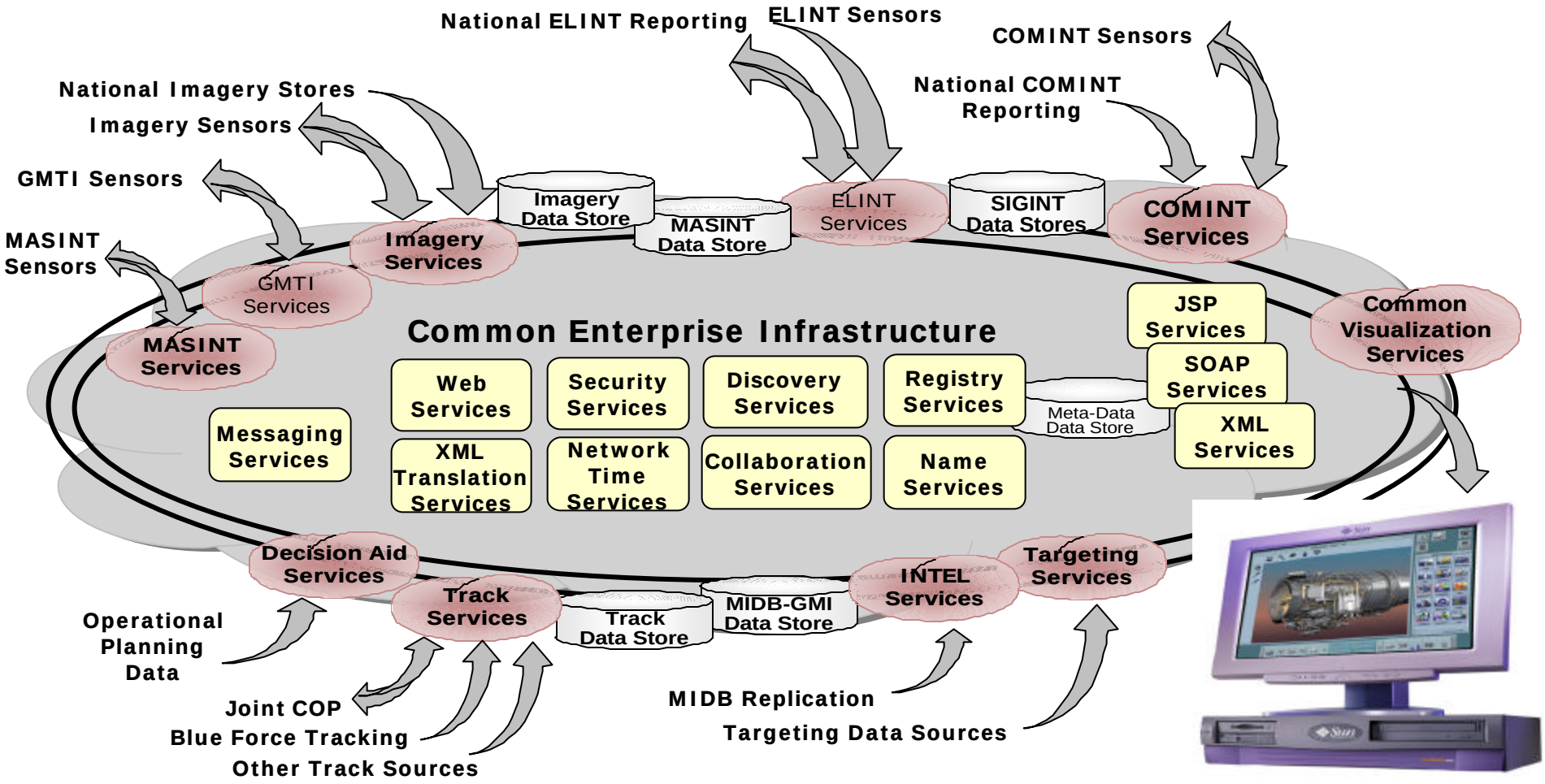
- Theater bandwidth efficiently shared
- Removes bandwidth as a capability limitation
- Migration off legacy infrastructure

Services Oriented Network Architecture



Common Enterprise Infrastructure
Integrating DIB, NCES, and DAL Enterprise Architectures

User Centric Information Systems

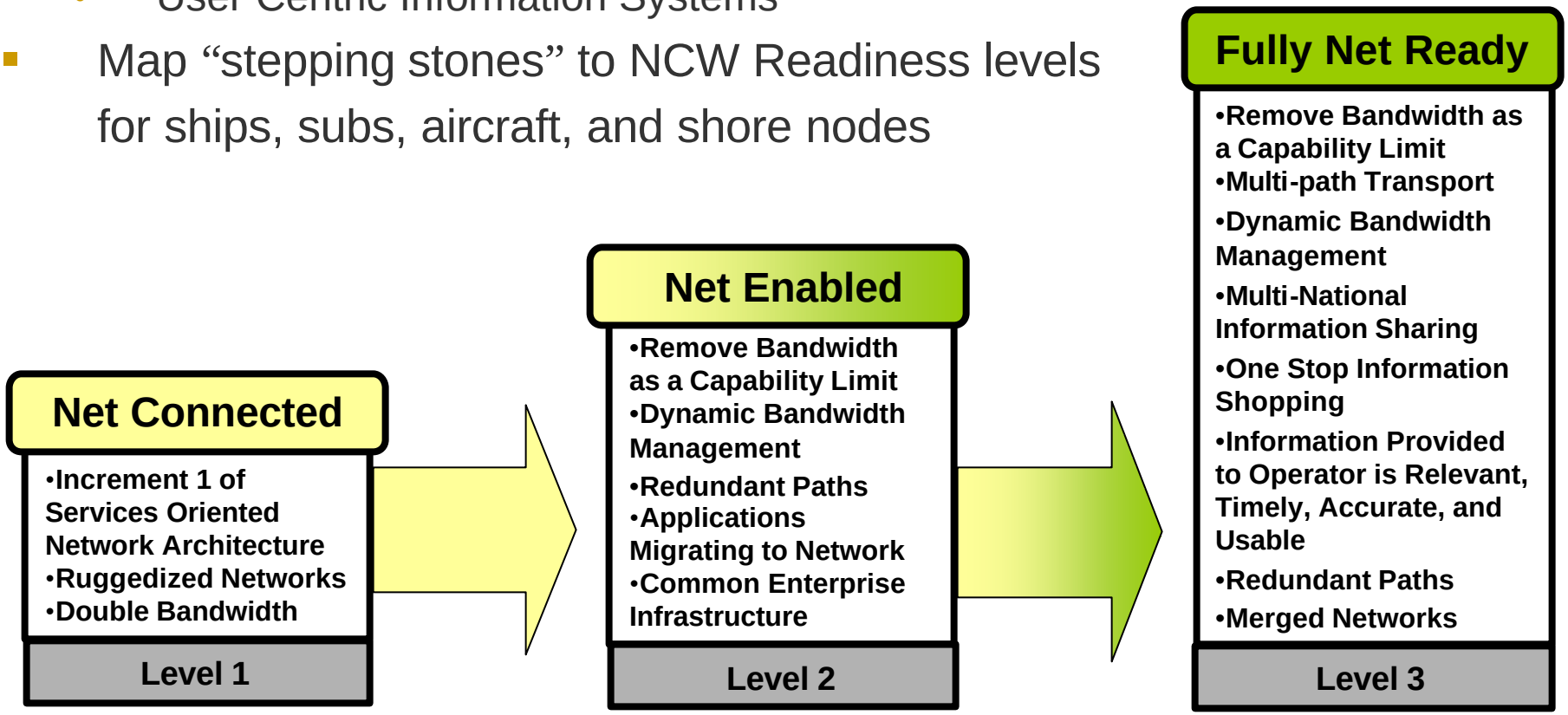


Common Enterprise Infrastructure
Integrating DIB, NCES, and DAL Enterprise Architectures

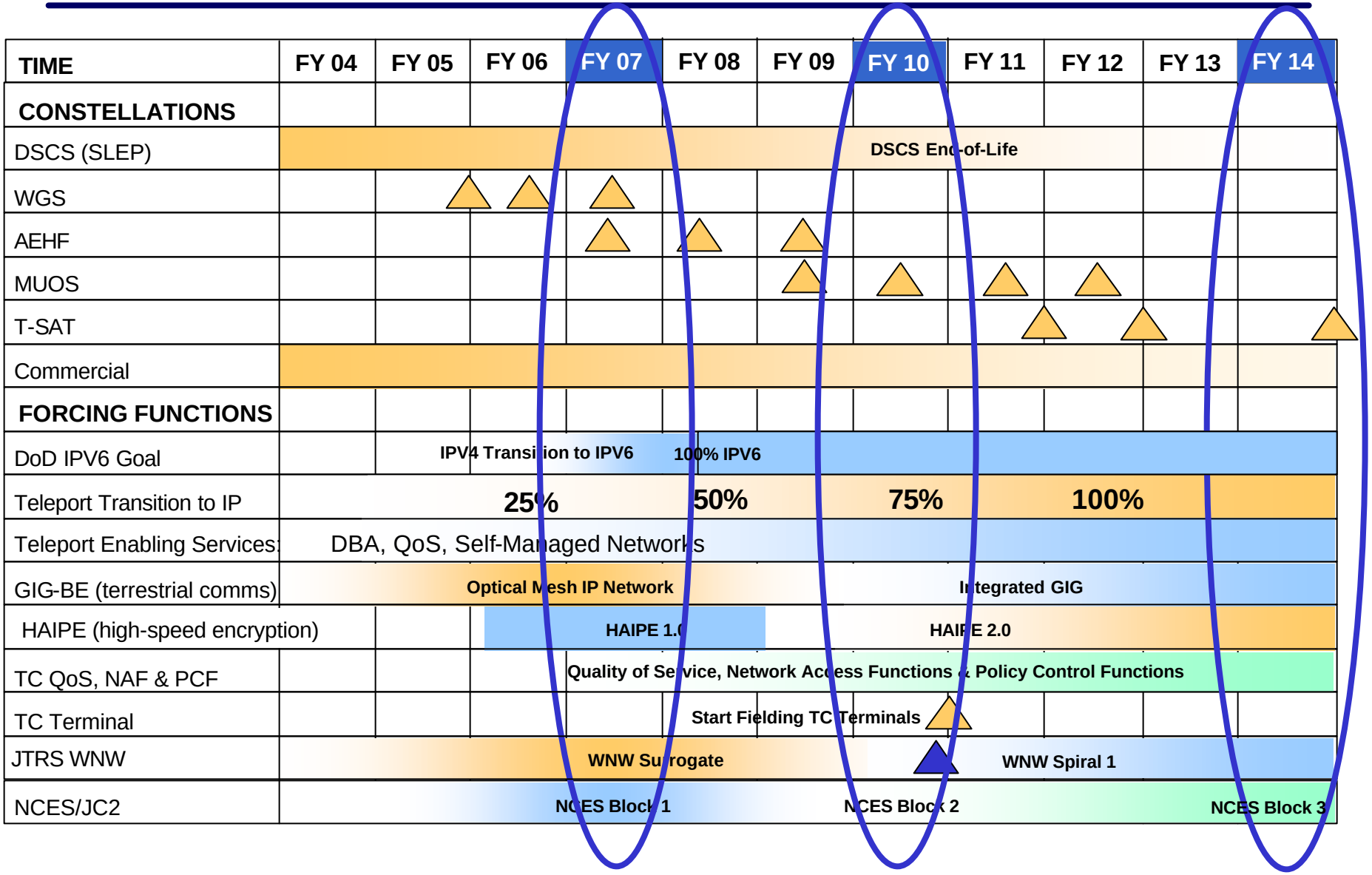
Services and Stores
- **Legacy Systems decomposed into anonymous servlets, enterprise beans, & data stores that ride on the Common Enterprise Infrastructure**
- **Integration occurs at the data level**

How?

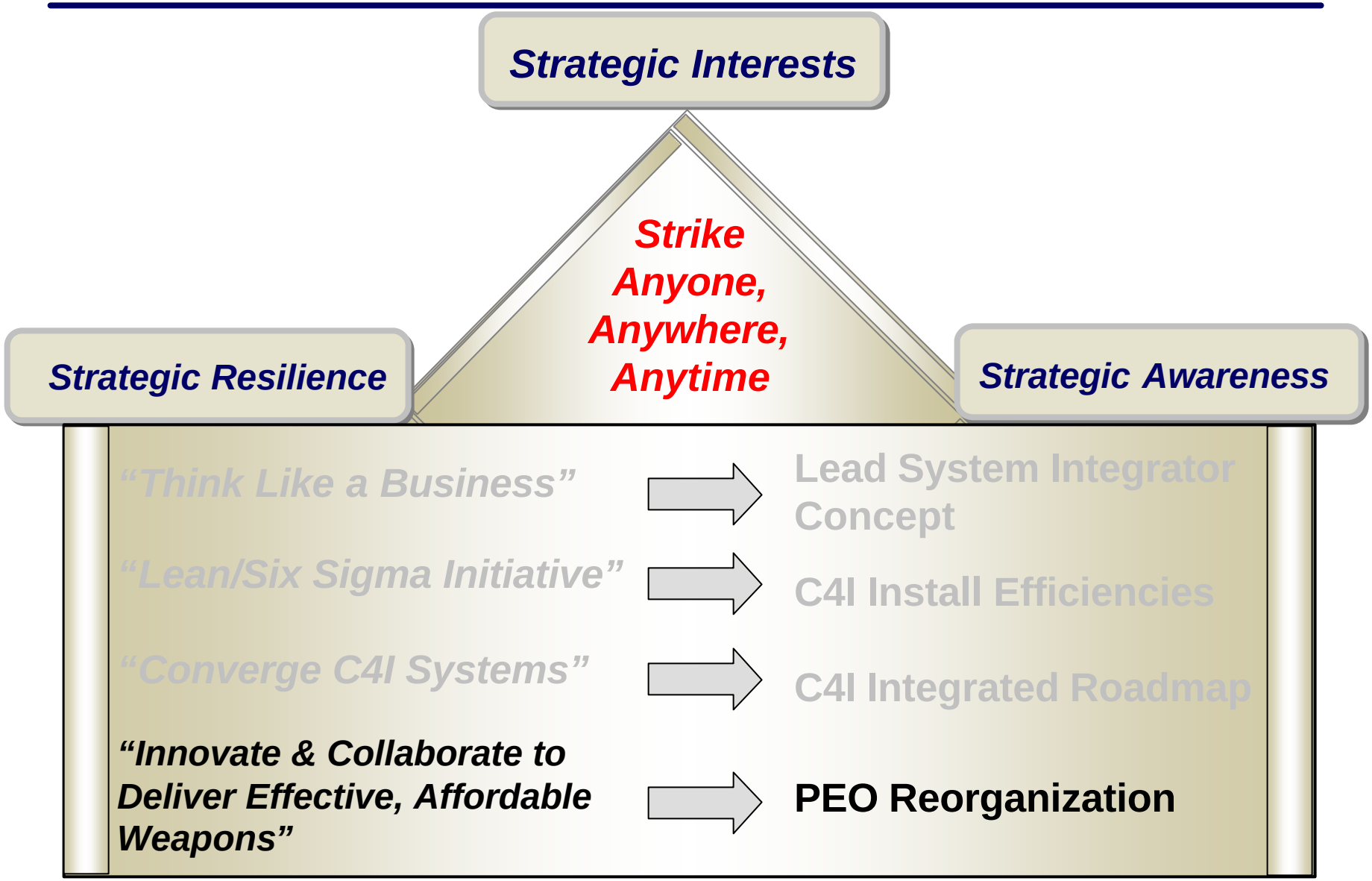
- Chart NCW Ready improvement opportunities within the FYDP
  - Bandwidth enabled
  - Services Oriented Network Architecture
  - User Centric Information Systems
- Map “stepping stones” to NCW Readiness levels for ships, subs, aircraft, and shore nodes



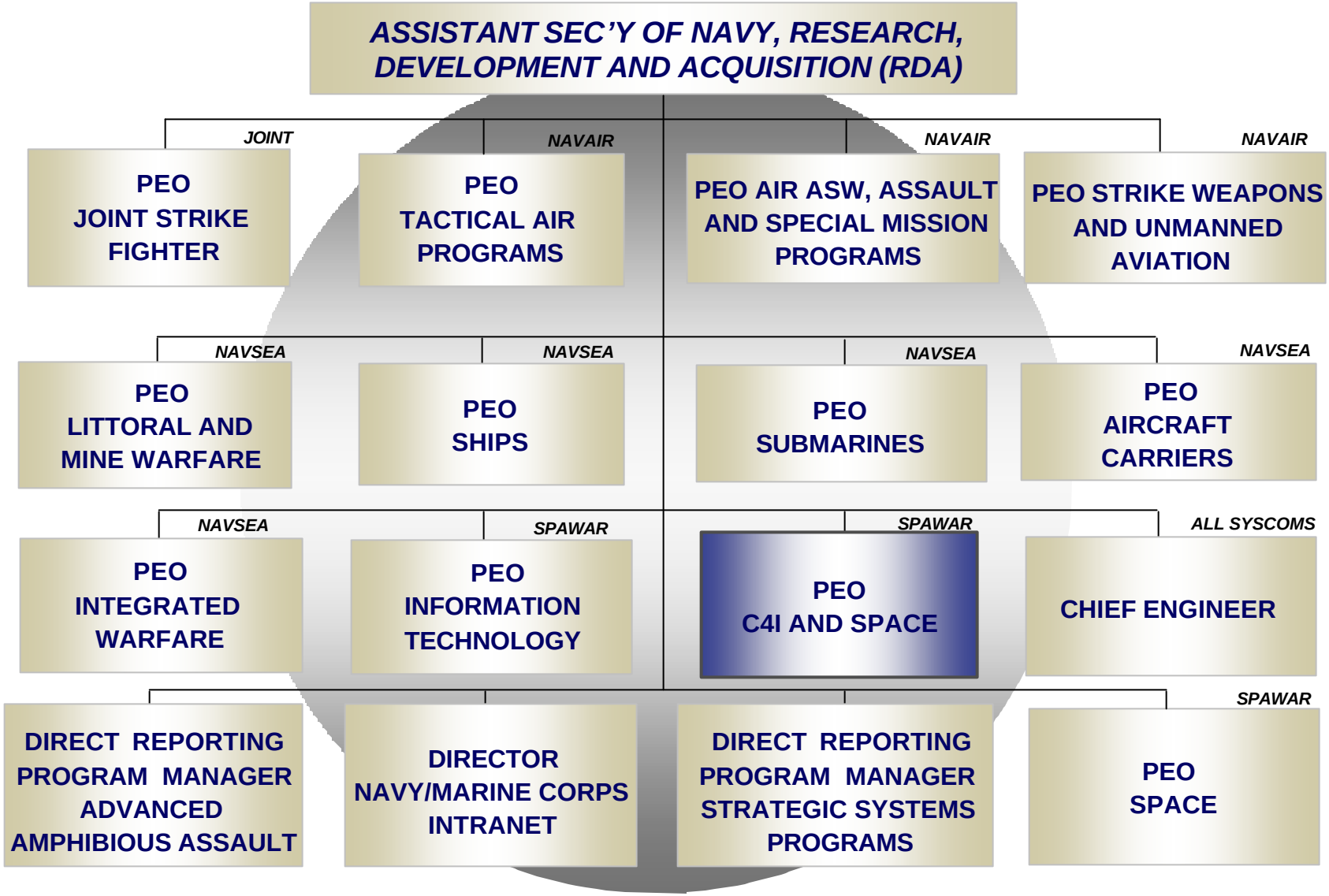
NCW Ready Opportunities



Building the Navy's C4I "Strategic Capability"

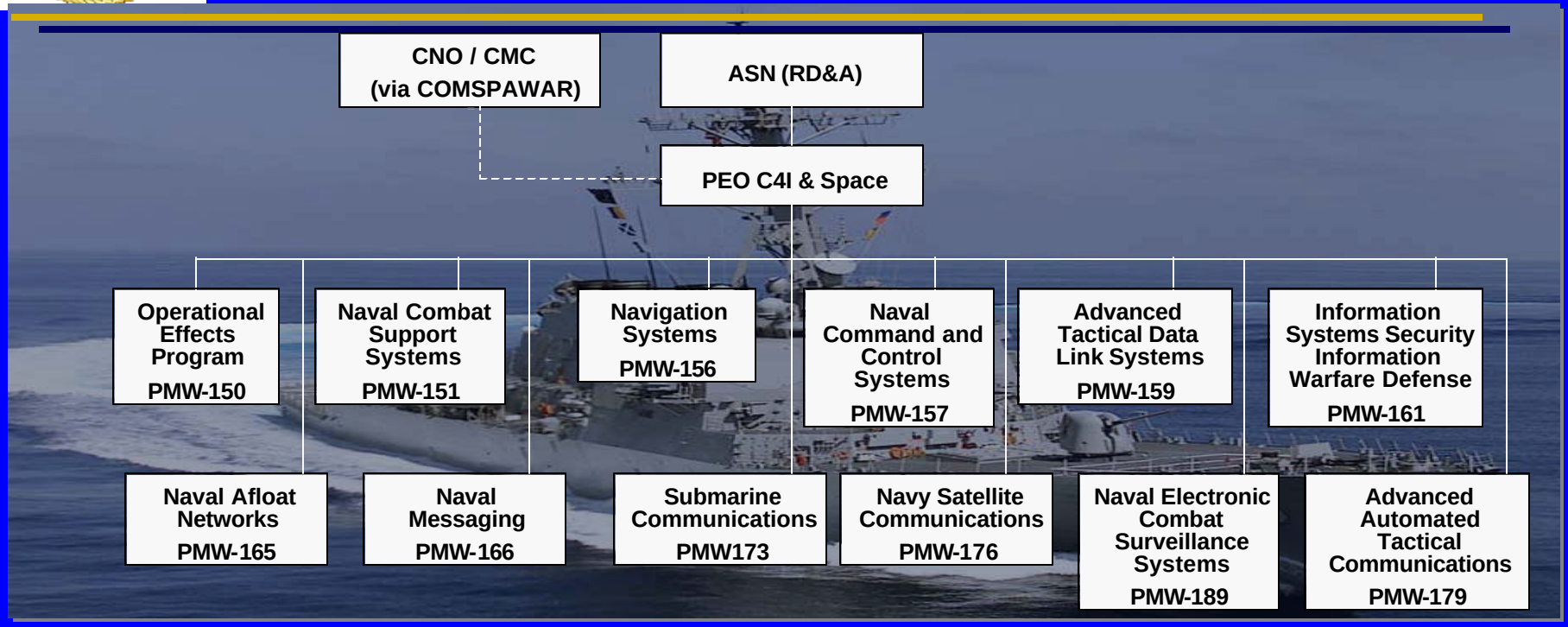


The Navy's Acquisition Structure



PEO C4I and Space

ORGANIZATIONAL PROFILE



Mission: Acquire, Integrate, Deliver and Support Interoperable C4I & Space Capabilities Enabling Seamless Operations for Fleet, Joint and Coalition Warfighters

Vision: Be the Preeminent Provider of Transformational Network Centric Warfare Capability Enabling Decision Superiority

- **Responsible for all aspects of life-cycle management**
- **Report to ASN RD&A for acquisition responsibilites of assigned programs;**
- **Report to CNO / CMC (through SYSCOM Commander) for in service support**
- **Total control of available resources - $2.1B annual budget (approx)**

PEO C4I and Space Internal Reorganization

Major Improvements Sought

- **Align to PEO C4I Roadmap**
  - Positioned to implement C4I portion of FORCEnet
- **Focus on capabilities vice products**
  - Align to DoN vision of a networked Force
  - Align with Fleet, OPNAV and POM Process
- **Become C4I provider for new platforms**
  - Currently do fleet modernization almost exclusively
  - Platform solutions sub-optimal in interoperability and sustainability
  - Improve commonality

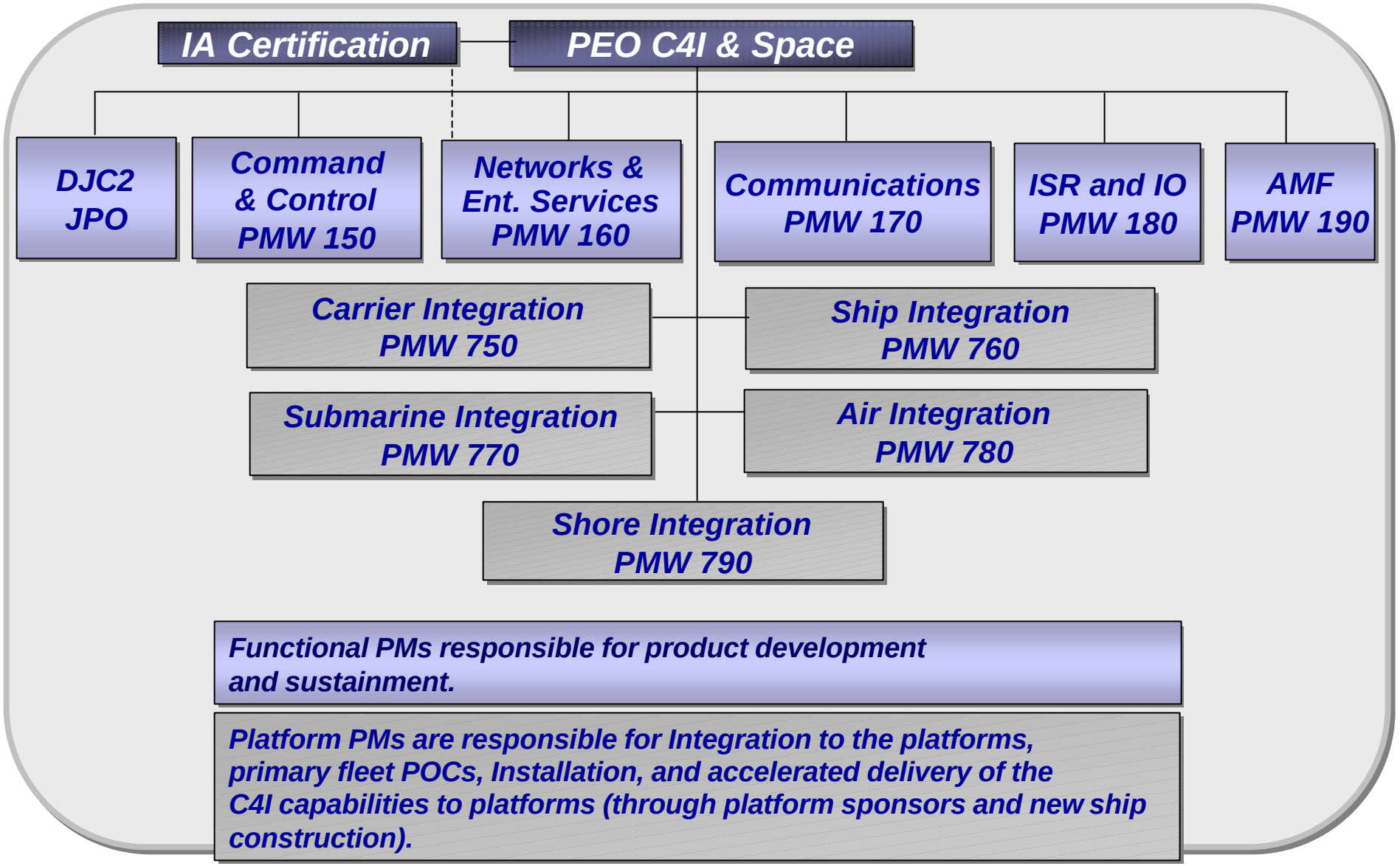
PEO C4I and Space Internal Reorganization

Major Improvements Sought

- **Become even more efficient**
  - Divest any product lines not in our core expertise
  - Consolidate commodity acquisition (PCs, routers, antennas)
  - Reduce organizational infrastructure
- **Give Fleet entities a single C4I POC**
  - Platform specific (vice box specific)
- **Align with Joint Program Offices**
  - JC2, JTRS, DCGS, etc

New Organizational Structure

PEO C4I and Space



Building the Navy's C4I "Strategic Capability"

Summary

PEO C4I and Space:

- **Supporting the Strategic pillars of "strategic awareness" and "strategic resilience"**
- **Transforming the business of C4I acquisition**
- **Providing the warfighter with a strategic C4I capability**